

Advanced Wastewater Management Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Treatment Type (Primary Treatment, Secondary Treatment, Tertiary Treatment), By Technology (Membrane Bioreactors, Reverse Osmosis, Sequencing Batch Reactors, Moving Bed Biofilm Reactors, Others), By Application (Municipal, Industrial, Agricultural), By Region & Competition, 2020-2030F

<https://marketpublishers.com/r/AE41CA05D339EN.html>

Date: June 2025

Pages: 185

Price: US\$ 4,500.00 (Single User License)

ID: AE41CA05D339EN

Abstracts

Market Overview

The Global Advanced Wastewater Management Market was valued at USD 129.61 billion in 2024 and is projected to reach USD 188.68 billion by 2030, growing at a CAGR of 6.30% during the forecast period. This growth is fueled by rising demand for sustainable water treatment solutions, accelerating urbanization, and stricter environmental regulations. With expanding populations and industrial activities, the complexity and volume of wastewater have increased, requiring advanced treatment technologies. The market includes solutions such as membrane bioreactors (MBR), advanced oxidation processes (AOPs), reverse osmosis (RO), ultraviolet (UV) disinfection, and Zero Liquid Discharge (ZLD) systems. These technologies are being deployed across municipal, industrial, and agricultural sectors to effectively manage wastewater and promote water reuse, helping meet regulatory compliance and sustainability goals.

Key Market Drivers

Rapid Technological Advancement

Rapid advancements in wastewater treatment technologies are significantly propelling the market forward. Membrane Bioreactors (MBRs), now implemented in over 12,000 facilities globally, are favored for managing high biological loads and producing superior effluent quality. Membrane-based systems such as Reverse Osmosis (RO) and Nanofiltration (NF) are used in over 30% of new industrial projects, primarily in tertiary treatment stages. More than 20% of major municipal utilities now utilize smart water technologies like IoT sensors and real-time monitoring to enhance operational performance. In Europe, approximately 40% of pharmaceutical wastewater facilities apply advanced oxidation processes (AOPs) to remove micropollutants. Energy-efficient systems are also reducing energy consumption by up to 25% per cubic meter when compared to traditional methods. These innovations not only enhance regulatory compliance but also decrease long-term operational costs.

Key Market Challenges

High Capital and Operational Costs

The elevated costs associated with the installation and operation of advanced treatment technologies pose a significant challenge. Systems utilizing Membrane Bioreactors (MBRs), Reverse Osmosis (RO), or Advanced Oxidation Processes (AOPs) typically require capital investments that are 30–50% higher than conventional biological treatment methods. Additionally, expenses related to membranes, chemicals, specialized labor, and integration further increase the financial burden. Operationally, high energy consumption—ranging from 0.8 to 1.5 kWh per cubic meter—along with membrane replacements and sludge handling contribute to ongoing costs. Developing regions often lack sufficient financial infrastructure, leading to delays or limited adoption. The absence of robust public-private partnership frameworks and inconsistent enforcement of environmental regulations also make it difficult for smaller facilities to embrace advanced technologies, despite regulatory demands.

Key Market Trends

Growing Integration of Digital Water Technologies

Digital transformation is reshaping wastewater management by introducing greater efficiency and predictive control. The adoption of sensors, IoT platforms, AI, and digital

twins is helping utilities and industries improve system monitoring and decision-making. Real-time data collection on key metrics such as flow rate, pH levels, and chemical dosing allows for precise system adjustments, enhancing energy use and treatment efficacy. AI-driven models optimize aeration and forecast equipment failures, while digital twins—already in use in cities like Singapore and Los Angeles—simulate operational scenarios for planning and upgrades. These tools reduce maintenance costs, prevent downtime, and support regulatory compliance. With growing emphasis on sustainability and efficiency, demand for integrated digital water solutions is rising rapidly in Europe, North America, and Asia-Pacific.

Key Market Players

Veolia Environnement S.A.

SUEZ SA

Xylem Inc.

Evoqua Water Technologies Corp.

Pentair plc

Kurita Water Industries Ltd.

Hitachi Ltd.

Toray Industries, Inc.

GE Water & Process Technologies

Alfa Laval AB

Report Scope:

In this report, the Global Advanced Wastewater Management Market has been segmented into the following categories, in addition to the industry trends which have

also been detailed below:

Advanced Wastewater Management Market, By Treatment Type:

Primary Treatment

Secondary Treatment

Tertiary Treatment

Advanced Wastewater Management Market, By Technology:

Membrane Bioreactors

Reverse Osmosis

Sequencing Batch Reactors

Moving Bed Biofilm Reactors

Others

Advanced Wastewater Management Market, By Application:

Municipal

Industrial

Agricultural

Advanced Wastewater Management Market, By Region:

North America

United States

Canada

Mexico

Europe

Germany

France

United Kingdom

Italy

Spain

South America

Brazil

Argentina

Colombia

Asia-Pacific

China

India

Japan

South Korea

Australia

Middle East & Africa

Saudi Arabia

UAE

South Africa

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Advanced Wastewater Management Market.

Available Customizations:

Global Advanced Wastewater Management Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

Contents

1. PRODUCT OVERVIEW

- 1.1. Market Definition
- 1.2. Scope of the Market
 - 1.2.1. Markets Covered
 - 1.2.2. Years Considered for Study
 - 1.2.3. Key Market Segmentations

2. RESEARCH METHODOLOGY

- 2.1. Objective of the Study
- 2.2. Baseline Methodology
- 2.3. Key Industry Partners
- 2.4. Major Association and Secondary Sources
- 2.5. Forecasting Methodology
- 2.6. Data Triangulation & Validation
- 2.7. Assumptions and Limitations

3. EXECUTIVE SUMMARY

- 3.1. Overview of the Market
- 3.2. Overview of Key Market Segmentations
- 3.3. Overview of Key Market Players
- 3.4. Overview of Key Regions/Countries
- 3.5. Overview of Market Drivers, Challenges, and Trends

4. VOICE OF CUSTOMER

5. GLOBAL ADVANCED WASTEWATER MANAGEMENT MARKET OUTLOOK

- 5.1. Market Size & Forecast
 - 5.1.1. By Value
- 5.2. Market Share & Forecast
 - 5.2.1. By Treatment Type (Primary Treatment, Secondary Treatment, Tertiary Treatment)
 - 5.2.2. By Technology (Membrane Bioreactors, Reverse Osmosis, Sequencing Batch Reactors, Moving Bed Biofilm Reactors, Others)

- 5.2.3. By Application (Municipal, Industrial, Agricultural)
- 5.2.4. By Region (North America, Europe, South America, Middle East & Africa, Asia Pacific)
- 5.3. By Company (2024)
- 5.4. Market Map

6. NORTH AMERICA ADVANCED WASTEWATER MANAGEMENT MARKET OUTLOOK

- 6.1. Market Size & Forecast
 - 6.1.1. By Value
- 6.2. Market Share & Forecast
 - 6.2.1. By Treatment Type
 - 6.2.2. By Technology
 - 6.2.3. By Application
 - 6.2.4. By Country
- 6.3. North America: Country Analysis
 - 6.3.1. United States Advanced Wastewater Management Market Outlook
 - 6.3.1.1. Market Size & Forecast
 - 6.3.1.1.1. By Value
 - 6.3.1.2. Market Share & Forecast
 - 6.3.1.2.1. By Treatment Type
 - 6.3.1.2.2. By Technology
 - 6.3.1.2.3. By Application
 - 6.3.2. Canada Advanced Wastewater Management Market Outlook
 - 6.3.2.1. Market Size & Forecast
 - 6.3.2.1.1. By Value
 - 6.3.2.2. Market Share & Forecast
 - 6.3.2.2.1. By Treatment Type
 - 6.3.2.2.2. By Technology
 - 6.3.2.2.3. By Application
 - 6.3.3. Mexico Advanced Wastewater Management Market Outlook
 - 6.3.3.1. Market Size & Forecast
 - 6.3.3.1.1. By Value
 - 6.3.3.2. Market Share & Forecast
 - 6.3.3.2.1. By Treatment Type
 - 6.3.3.2.2. By Technology
 - 6.3.3.2.3. By Application

7. EUROPE ADVANCED WASTEWATER MANAGEMENT MARKET OUTLOOK

7.1. Market Size & Forecast

7.1.1. By Value

7.2. Market Share & Forecast

7.2.1. By Treatment Type

7.2.2. By Technology

7.2.3. By Application

7.2.4. By Country

7.3. Europe: Country Analysis

7.3.1. Germany Advanced Wastewater Management Market Outlook

7.3.1.1. Market Size & Forecast

7.3.1.1.1. By Value

7.3.1.2. Market Share & Forecast

7.3.1.2.1. By Treatment Type

7.3.1.2.2. By Technology

7.3.1.2.3. By Application

7.3.2. France Advanced Wastewater Management Market Outlook

7.3.2.1. Market Size & Forecast

7.3.2.1.1. By Value

7.3.2.2. Market Share & Forecast

7.3.2.2.1. By Treatment Type

7.3.2.2.2. By Technology

7.3.2.2.3. By Application

7.3.3. United Kingdom Advanced Wastewater Management Market Outlook

7.3.3.1. Market Size & Forecast

7.3.3.1.1. By Value

7.3.3.2. Market Share & Forecast

7.3.3.2.1. By Treatment Type

7.3.3.2.2. By Technology

7.3.3.2.3. By Application

7.3.4. Italy Advanced Wastewater Management Market Outlook

7.3.4.1. Market Size & Forecast

7.3.4.1.1. By Value

7.3.4.2. Market Share & Forecast

7.3.4.2.1. By Treatment Type

7.3.4.2.2. By Technology

7.3.4.2.3. By Application

7.3.5. Spain Advanced Wastewater Management Market Outlook

- 7.3.5.1. Market Size & Forecast
 - 7.3.5.1.1. By Value
- 7.3.5.2. Market Share & Forecast
 - 7.3.5.2.1. By Treatment Type
 - 7.3.5.2.2. By Technology
 - 7.3.5.2.3. By Application

8. ASIA PACIFIC ADVANCED WASTEWATER MANAGEMENT MARKET OUTLOOK

- 8.1. Market Size & Forecast
 - 8.1.1. By Value
- 8.2. Market Share & Forecast
 - 8.2.1. By Treatment Type
 - 8.2.2. By Technology
 - 8.2.3. By Application
 - 8.2.4. By Country
- 8.3. Asia Pacific: Country Analysis
 - 8.3.1. China Advanced Wastewater Management Market Outlook
 - 8.3.1.1. Market Size & Forecast
 - 8.3.1.1.1. By Value
 - 8.3.1.2. Market Share & Forecast
 - 8.3.1.2.1. By Treatment Type
 - 8.3.1.2.2. By Technology
 - 8.3.1.2.3. By Application
 - 8.3.2. India Advanced Wastewater Management Market Outlook
 - 8.3.2.1. Market Size & Forecast
 - 8.3.2.1.1. By Value
 - 8.3.2.2. Market Share & Forecast
 - 8.3.2.2.1. By Treatment Type
 - 8.3.2.2.2. By Technology
 - 8.3.2.2.3. By Application
 - 8.3.3. Japan Advanced Wastewater Management Market Outlook
 - 8.3.3.1. Market Size & Forecast
 - 8.3.3.1.1. By Value
 - 8.3.3.2. Market Share & Forecast
 - 8.3.3.2.1. By Treatment Type
 - 8.3.3.2.2. By Technology
 - 8.3.3.2.3. By Application
 - 8.3.4. South Korea Advanced Wastewater Management Market Outlook

- 8.3.4.1. Market Size & Forecast
 - 8.3.4.1.1. By Value
- 8.3.4.2. Market Share & Forecast
 - 8.3.4.2.1. By Treatment Type
 - 8.3.4.2.2. By Technology
 - 8.3.4.2.3. By Application
- 8.3.5. Australia Advanced Wastewater Management Market Outlook
 - 8.3.5.1. Market Size & Forecast
 - 8.3.5.1.1. By Value
 - 8.3.5.2. Market Share & Forecast
 - 8.3.5.2.1. By Treatment Type
 - 8.3.5.2.2. By Technology
 - 8.3.5.2.3. By Application

9. MIDDLE EAST & AFRICA ADVANCED WASTEWATER MANAGEMENT MARKET OUTLOOK

- 9.1. Market Size & Forecast
 - 9.1.1. By Value
- 9.2. Market Share & Forecast
 - 9.2.1. By Treatment Type
 - 9.2.2. By Technology
 - 9.2.3. By Application
 - 9.2.4. By Country
- 9.3. Middle East & Africa: Country Analysis
 - 9.3.1. Saudi Arabia Advanced Wastewater Management Market Outlook
 - 9.3.1.1. Market Size & Forecast
 - 9.3.1.1.1. By Value
 - 9.3.1.2. Market Share & Forecast
 - 9.3.1.2.1. By Treatment Type
 - 9.3.1.2.2. By Technology
 - 9.3.1.2.3. By Application
 - 9.3.2. UAE Advanced Wastewater Management Market Outlook
 - 9.3.2.1. Market Size & Forecast
 - 9.3.2.1.1. By Value
 - 9.3.2.2. Market Share & Forecast
 - 9.3.2.2.1. By Treatment Type
 - 9.3.2.2.2. By Technology
 - 9.3.2.2.3. By Application

9.3.3. South Africa Advanced Wastewater Management Market Outlook

9.3.3.1. Market Size & Forecast

9.3.3.1.1. By Value

9.3.3.2. Market Share & Forecast

9.3.3.2.1. By Treatment Type

9.3.3.2.2. By Technology

9.3.3.2.3. By Application

10. SOUTH AMERICA ADVANCED WASTEWATER MANAGEMENT MARKET OUTLOOK

10.1. Market Size & Forecast

10.1.1. By Value

10.2. Market Share & Forecast

10.2.1. By Treatment Type

10.2.2. By Technology

10.2.3. By Application

10.2.4. By Country

10.3. South America: Country Analysis

10.3.1. Brazil Advanced Wastewater Management Market Outlook

10.3.1.1. Market Size & Forecast

10.3.1.1.1. By Value

10.3.1.2. Market Share & Forecast

10.3.1.2.1. By Treatment Type

10.3.1.2.2. By Technology

10.3.1.2.3. By Application

10.3.2. Colombia Advanced Wastewater Management Market Outlook

10.3.2.1. Market Size & Forecast

10.3.2.1.1. By Value

10.3.2.2. Market Share & Forecast

10.3.2.2.1. By Treatment Type

10.3.2.2.2. By Technology

10.3.2.2.3. By Application

10.3.3. Argentina Advanced Wastewater Management Market Outlook

10.3.3.1. Market Size & Forecast

10.3.3.1.1. By Value

10.3.3.2. Market Share & Forecast

10.3.3.2.1. By Treatment Type

10.3.3.2.2. By Technology

10.3.3.2.3. By Application

11. MARKET DYNAMICS

11.1. Drivers

11.2. Challenges

12. MARKET TRENDS AND DEVELOPMENTS

12.1. Merger & Acquisition (If Any)

12.2. Product Launches (If Any)

12.3. Recent Developments

13. COMPANY PROFILES

13.1. Veolia Environnement S.A.

13.1.1. Business Overview

13.1.2. Key Revenue and Financials

13.1.3. Recent Developments

13.1.4. Key Personnel

13.1.5. Key Product/Services Offered

13.2. SUEZ SA

13.3. Xylem Inc.

13.4. Evoqua Water Technologies Corp.

13.5. Pentair plc

13.6. Kurita Water Industries Ltd.

13.7. Hitachi Ltd.

13.8. Toray Industries, Inc.

13.9. GE Water & Process Technologies

13.10. Alfa Laval AB

14. STRATEGIC RECOMMENDATIONS

15. ABOUT US & DISCLAIMER

I would like to order

Product name: Advanced Wastewater Management Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Treatment Type (Primary Treatment, Secondary Treatment, Tertiary Treatment), By Technology (Membrane Bioreactors, Reverse Osmosis, Sequencing Batch Reactors, Moving Bed Biofilm Reactors, Others), By Application (Municipal, Industrial, Agricultural), By Region & Competition, 2020-2030F

Product link: <https://marketpublishers.com/r/AE41CA05D339EN.html>

Price: US\$ 4,500.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/AE41CA05D339EN.html>